

Committee on Development and Intellectual Property (CDIP)

Thirty-First Session
Geneva, November 27 to December 1, 2023

REPORT ON THE INTERNATIONAL CONFERENCE ON INTELLECTUAL PROPERTY
AND DEVELOPMENT – IP AND INNOVATION FOR SUSTAINABLE AGRICULTURE
(APRIL 24, 2023)

prepared by the Secretariat

1. The Committee on Development and Intellectual Property (CDIP), at its twenty-second session, took a decision to convene three consecutive one-day biennial International Conferences on Intellectual Property (IP) and Development, starting from the twenty-third session.¹ The first of such conferences was held on May 20, 2019, on the first day of the twenty-third CDIP session, with the theme “*IP and Development: how to benefit from the IP system*”. A factual report was presented to the twenty-fourth session of the Committee (document [CDIP/24/5](#)).
2. The second International Conference was held on November 22 and 23, 2021, on the first two days of the twenty-seventh CDIP session, with the theme “*Innovation in Green Technologies for Sustainable Development*”.² A factual report was presented to the twenty-eighth CDIP session (document [CDIP/28/3](#)).
3. The third International Conference took place on April 24, 2023, on the first day of the thirtieth CDIP session, with the theme “*Intellectual Property and Innovation for Sustainable Agriculture*”.³ This report presents a summary of the main elements of the Conference, for information of the Committee.

¹ Paragraph 8.1. of the [Summary by the Chair of CDIP/22](#).

² The theme of the second International Conference was decided by the Committee at its 24th session (paragraph 8.5 of the [Summary by the Chair](#)).

³ The theme of the third International Conference was decided by the Committee at its 28th session (paragraph 6.2 of the [Summary by the Chair](#)).

I. ORGANIZATIONAL ASPECTS

4. The Conference on April 24, 2023, was convened from 9.30 a.m. to 6.00 p.m. Central European Summer Time, in a hybrid mode (participants and speakers joining both online and in person).

5. The event was open to participation from representatives of Member States, intergovernmental organizations (IGOs), non-governmental organizations (NGOs), academics, policy-makers, civil society, and other representatives of the international IP community.

6. Interpretation was available in all six United Nations (UN) official languages (English, French, Spanish, Russian, Chinese and Arabic).

II. STRUCTURE OF DISCUSSIONS

7. The Conference was organized along an introductory panel, three panels and a concluding dialogue, with the following subthemes:

- IP as an Incentive for Sustainable Agriculture;
- Agricultural Lands and Inputs – Preparing the ground;
- Cultivation and Harvesting – Producing the crop;
- Storing, Distribution and Consumption – From farming to commercializing;
- Opportunities for the Future.

8. The Introductory Panel featured presentations by two high-level speakers. Panels 1, 2, and 3 each included presentations and a case study by four speakers, followed by a questions and answers (Q&A) session. The moderator for each panel also offered insights and observations. During the Concluding Dialogue, one selected speaker from each panel engaged in an open and dynamic discussion, exchanging views on the highlights of the discussions.

9. The Welcoming and Closing Remarks were delivered by Mr. Hasan Kleib, Deputy Director General, Regional and National Development Sector of WIPO, who highlighted the role of IP in providing incentives for innovations in agriculture to address its global challenges.

III. SPEAKERS AND MODERATORS

10. Following the decision of the Committee, the Secretariat organized this Conference “on the basis of the principles of balance and fairness, including in the selection of speakers and format.”⁴ In particular, the selection of speakers took into account the need for geographical balance, appropriate expertise, and balance in perspective and gender.⁵ As a result, 14 speakers from different geographical regions and professional backgrounds (government officials, IGOs, NGOs, academia and private sector) participated in the Conference.

11. The Conference discussions were moderated by five WIPO senior staff members, as follows:

- Introductory Panel: IP as an Incentive for Sustainable Agriculture, was moderated by Mr. Edward Kwakwa, Assistant Director General, Global Challenges and Partnerships Sector;

⁴ Paragraph 8.1 of the [Summary by the Chair of CDIP/22](#).

⁵ These guidelines were included in the original proposal of the African Group ([CDIP/20/8](#)), which led to the Committee’s decision to hold three biennial Conferences.

- Panel 1: Agricultural Land and Inputs – Preparing the ground, was moderated by Mr. Alejandro Roca Campaña, Senior Director, IP for Innovators Department (IPID);
- Panel 2: Cultivation and Harvesting – Producing the crop, was moderated by Mr. Andras Jokuti, Director, Patent and Technology Law Division;
- Panel 3: Storing, Distribution and Consumption – From farming to commercializing, was moderated by Ms. Alexandra Grazioli, Director, Lisbon Registry; and
- Concluding Dialogue on Opportunities for the Future, was moderated by Mr. Irfan Baloch, Director, Development Agenda Coordination Division.

IV. PARTICIPANTS

12. The Conference reached more than 600 participants, including Member States' delegates. Participants engaged actively by sharing views and raising questions. The questions were addressed in writing *via* the chat platform, and orally by the speakers.

V. PROMOTION AND COMMUNICATION

13. A [dedicated webpage](#) was created for the Conference in the six UN official languages, providing all relevant information, including registration, program, profiles and presentations of speakers, and the link to the video recording.

14. Social media and other communication tools, including newsletters, mailing lists and flyers, were used by the Secretariat for promoting the Conference to a wide audience. Photographs taken were published on the [Organization's flickr account](#).

VI. HIGHLIGHTS OF DISCUSSIONS

15. Below is a brief overview of the Conference discussions.

1. INTRODUCTORY PANEL

16. The Introductory Panel explored the challenges faced by the agricultural sector, and how IP and other policy tools could incentivize agricultural innovation and address these challenges. H.E. Ms. Sofía Boza, Ambassador and Permanent Representative of Chile to the World Trade Organization (WTO), highlighted Chile's agricultural challenges and IP-related supportive policies. IP and innovation play a fundamental role in achieving the [Sustainable Development Goals \(SDGs\)](#) for a viable and inclusive food system. Agriculture served as a cultural, social and economic pillar, and agricultural innovation was essential to feed the growing population, reduce poverty and improve general well-being. As a fruit exporter in the global food supply chain system, Chile improved its production processes to meet food quality and safety standards and designed related policies. Agricultural challenges included increasing productivity, improving global trade networks, climate change adaptation, and sustainability certification. Chile fostered the development of competitive, equitable and sustainable agriculture for the benefit of stakeholders, small-scale producers and indigenous peoples through agriculture strategies for use of resources and promotion of low-emission processes and climate change adaptation. Chile also implemented specific measures, such as the creation of a coordination agency, strengthening of food safety and quality, protection of traditional knowledge, and accelerated processing of patent applications for green technologies. Agricultural innovation needs included tax incentives for research and development (R&D).

17. H.E. Ms. Pimchanok Vonkorpon Pitfield, Ambassador and Permanent Representative of Thailand to WTO and WIPO, highlighted that agriculture formed a prominent part of the national strategy for improving productivity, access, knowledge, and human resources development. Agriculture challenges in Thailand were related to sustainable production, climate change, technological disruptions, market access and workforce development. Recognizing the importance of agriculture for rural livelihood, Thailand launched three digital systems: [Trace Thai](#), a blockchain technology system to record and improve traceability, ThinkTrade Dashboard, a cloud platform system to generate data from production to export, and [Agri-Map Application](#) for farmers to get information on soil, water, climate, marketing, and logistics in different agricultural zones to facilitate production decision-making.

2. PANEL 1

18. The first panel discussed farmers' technology needs related to precision and vertical farming, biotechnology, plant breeding and gene modification, and soil microbial management for sustainable agriculture land and inputs.

19. Mr. Peter Button, Vice Secretary-General of the Protection of New Varieties of Plants ([UPOV](#)), addressed agricultural productivity in the context of climate change and the role of plant breeding and variety protection. The evolution in agricultural productivity transformed the drivers for production from inputs, fertilizer and water pesticides to innovation and new plant varieties that would enable an increase in production with the use of the same area of land. Climate change in agriculture led to more instances of flooding, drought, higher salt levels, and new diseases affecting crop production. Plant breeding was a long-term process requiring a good regulatory environment and long-term investment, the UPOV system enabled plant breeders to invest and provide farmers with the right variety containing the right seed quality at the right time. The socio-economic benefits of UPOV membership were evident in Viet Nam, through increased productivity adding to the annual GDP, and in Argentina, through the conservation of plant genetic resources and benefit-sharing between plant breeders and the custodians of native wild varieties. The key was to ensure that plant breeding increased productivity using high-performing varieties, reduced pressure on and helped sustain the natural environment and plant genetic resources while responding to climate change-related challenges in agriculture.

20. Mr. Elcio Perpétuo Guimarães, Director General of [Embrapa Rice and Beans](#), highlighted the importance of plant variety protection, technology, and partnerships with the private sector and seed producers for delivering high-quality varieties and developing structured breeding programs. As a result, greater market shares and higher royalties were achieved, which provided opportunities for further innovation and investment, for example, minor crop breeding, to enable the use of land year-round. The [Crop Protection Law of 1997](#) changed Brazil's policy environment, and plant variety protection became a tool for innovation in agriculture.

21. Ms. Susan Bragdon, Director of [Seeds for All](#), focused on the role of small-scale farmers as innovators, experimenters, and custodians of agro-biodiversity in sustainable agricultural production and global food security. Small-scale farmers were at the forefront of adapting agricultural biodiversity to changing conditions caused by climate change and other stressors. Small-scale farmer innovation was often the product of social relationships, investment in minor crops, and development of varieties for marginal environments. The [1994 WTO Agreement on Trade-Related Aspects of Intellectual Property Rights](#) (TRIPS) and [1991 UPOV revision](#) expanded the recognition of plant-related IP and contributed to the global harmonization of IP standards. However, the need still remained for a more holistic approach in developing public policies, including IP, aimed at incentivizing and supporting these small-scale farmers and their innovative systems. Small-scale farmers should therefore be integral to discussions on agricultural innovation.

22. Mr. Mohd Fahad Ifaz, the Chief Executive Officer (CEO) of [iFarmer](#), presented a case study on democratizing agriculture financing and supply chain. iFarmer was established to provide a one-stop solution to small farmers, using an agri-tech platform to offer access to financing, high-quality agriculture inputs and seed agriculture technologies and machinery, insurance and advisory services, and market access. To date, iFarmer worked with 100,000 farmers, 80% of which were smallholders, established 150 centers nationwide, facilitated USD 25 million of financing, and delivered 10,000 tons of produce to the market. iFarmer achieved a reduction of 30% in cost of capital, and 14% in fertilizer cost. With the emergence of data-driven or digital agriculture, farmers' and farm data were collected and used to design new services and products, resulting in the need for a legal framework for the protection, ownership, and utilization of these data. Farmers should further be educated on their data rights. Until such a legal framework will be put in place, suitable guidelines and principles could be adopted.

3. PANEL 2

23. Panel 2 discussed new trends in agriculture that could support farmers to better manage loss or waste and address some of the challenges encountered at this stage. In discussing these trends, the Panel looked at existing public policies and strategies of IP.

24. Dr. Hans Adu-Dapaah, Vice-President of [CSIR College of Science and Technology \(CCST\)](#), presented innovative solutions for sustainable crop production in Ghana to overcome farming challenges. Comprising 60% of Ghana's workforce, agriculture was vital for food security and rural development. Crop production challenges comprised climate change-related pest infestation, drought, soil fertility decline; inadequate land preparation and post-harvest management leading to 45.6% food loss; inconsistent marketing system and price fluctuation; lack of new crop varieties, technologies; and access to credit. In response, several climate-smart innovations were promoted, such as climate-resilient and diversified crop varieties, Artificial Intelligence (AI) technologies, urban agriculture, and e-agriculture for weather forecasting, market analysis, and pest management. The Government also developed IP tools and strategies to encourage the increased use of [GI protection](#) and put in place the [Plant Variety Protection Act 1050 \(2020\)](#), to promote innovation for sustainable agriculture and crop production.

25. Ms. Namukolo Covic, Director General's Representative to Ethiopia for the International Livestock Research Institute (ILRI), and Regional Director for East and Southern Africa at the Consortium of International Agricultural Research Centers ([CGIAR](#)), presented on CGIAR research for the development of global public goods, targeting small-holder farmers in low and middle-income countries (LMICs). IP-related examples comprised the [Aflasafe](#) product to reduce contamination in crops, [Index-Based Livestock Insurance \(IBLI\)](#) for livestock production, digitalized seed system platform and mobile app for nutrition messaging, biofortification of crop varieties, and a range of animal herd health products. Significant impact was achieved with spillovers to the global North, and this included the improved rice varieties of USD 10.8 billion, prevention of 6 million infant deaths, and use of bio-fortified crops by 50 million people. Licensing was mainly for traceability rather than royalties, as CGIAR products continued to support the development and innovation of sustainable agriculture and food systems in LMICs. It remained imperative, however, to secure a steady flow of funding.

26. In commemorating 2023 as the International Year of Millets, Mr. Surya Mani Tripathi, Head Legal Services, [International Crops Research Institute for the Semi-arid tropics \(ICRISAT\)](#), highlighted the work undertaken in relation to these traditional crop varieties cultivated by tribal farmers. The Odisha Millet Mission was launched to revive the millet seed system for landraces and to preserve indigenous knowledge related to millet farming. With the contribution of local seed farmers, 97 traditional millet varieties were conserved. It was evident

that traditional crop varieties yielded more nutritional value than commercial ones. Farmers also received training on the use of modern tools and technologies for quality seed production at a larger scale. The vast amount of data and information generated from the Mission called for the establishment of a digital register. In addition, there was a need for an IP system for the protection of traditional crop varieties and associated knowledge and know-how. Discussions on agriculture and climate change should also address this important issue, which could contribute to the development of harmonized guidelines or protocols for traditional crop varieties and associated knowledge and expertise.

27. Ms. Nailya Shodorova, Director of [EGISTIC](#), a Startup from Kazakhstan, presented a case study on the development of an e-farm management system for farmers in Kazakhstan. There was a low agriculture productivity in the country due to extreme and unpredictable weather conditions, the conservative mindset of farmers related to the use of fertilizers and technologies, governmental regulations and subsidies influencing farmers' motivation to achieve higher results, and refusal of young generations to work in agriculture. In response to these challenges, EGISTIC started a science project for promoting the use of new technologies in agriculture. For example, satellite imageries were used to monitor crop areas for precision farming, and in one case, it resulted in the timely detection of pests in barley crops. The development of the SuperApp mobile application provided farmers with access to a wide range of online services, and its commercialization provided EGISTIC with new revenue sources, increased market share, and enhanced service synergies. The company now had an estimated worth of 3 million dollars with IP as its main asset. This case study proved that IP and innovation can contribute to sustainable agriculture in Kazakhstan by promoting the development and adoption of new technologies, supporting knowledge transfer and collaboration, and facilitating the creation of technologies tailored to the needs of local farms.

4. PANEL 3

28. Panel 3 explored policies and innovative technologies for the storage and distribution of agricultural products, and the importance of IP branding strategies for responsible consumption.

29. Mr. Stephen Mbithi Mwikya, Secretary, Blue Economy Resources, Cabinet Affairs Office from Kenya, addressed IP and innovation related to the storage, distribution and consumption of agricultural products. There was a need to conserve production, as post-harvest loss amounted 20-40%. The level of investment in modern technologies with high IP content and the use of indigenous knowledge practices for the handling, processing, storage, distribution, and retail management of goods and services depended on the target market, whether it was produced for local consumption or export. Benefits of modern technologies were apparent in, for example, cold chain management for energy-efficient facility construction and the use of modified atmosphere packaging (MAP) for food quality preservation. The importance of innovation in achieving the SDGs and addressing issues related to food security, production, quality, and waste resulted in the need for developing countries to invest in IP-based strategies for the development and integration of innovations to reduce post-harvest loss, and participate in global agricultural trade.

30. Ms. Florence Tartanac, Senior Officer, Food and Nutrition Division ([FAO](#)), highlighted the benefits of geographical indications (GIs) as an IP tool for sustainable agri-food systems. Through its distinct characteristics, GIs served as a guarantee of quality and origin for consumers. Economic benefits of GIs included higher final product prices, better income distribution for local and small-scale producers, increased production, enhanced market access, economic resilience through diversification, decreased dependency on global markets and prices, as well as positive externalities related to biodiversity and protection of local breeds and varieties. Public authorities played an important role in the assessment, registration, and protection of GIs. To ensure sustainability, however, comprehensive technical support, adequate policies, and sufficient resources would be required.

31. Ms. Silvia Salazar Fallas, Legal Adviser, PROINNOVA, University of Costa Rica, addressed the added value of IP in Costa Rican coffee production. Branding tools, such as marks and GIs, contributed to the evolution of coffee production and the expansion of the local markets in Costa Rica. The first exports took place in 1843, with 90% of the coffee produced by small farms. With the rise in production of export and coffee roasting companies, the registration of marks increased to 100 marks. Examples of known brands include Café de Costa Rica and Tarrazu. Britt pioneered the introduction of the degassing valve in coffee packaging for quality and flavor conservation. Consumers became more sophisticated, demanding quality, different tastes, organic coffee, and good agricultural, environmental and social practices for sustainable development. Recognizing the benefit of coffee production, companies launched differentiated coffee-based products for consumption with branding as an integral marketing tool, which led to the development of new local markets.

32. Mr. Asahi Suzuki, Managing Director, Agricultural Administration Planning Division, Yamagata Prefecture, Japan, presented a case study on the “Tsuyahime” rice variety developed by Yamagata Rice Breeding and Crop Science Research Institute. With consumers focusing more on quality and taste, the rice was branded by production areas (prefectures) and varieties, making the Japanese rice market one of the most competitive in the world. A popular brand was “Koshi-hikari” from the Nigata Prefecture, known for its good quality variety with an average market price of 13,000 Yen. The “Tsuyahime” rice variety was developed with a branding strategy, targeting the premium end of the market and production plan, emphasizing quality and taste, and public relations strategy focusing on reputation and visibility. Tsuyahime was registered under both plant variety protection and trademark systems. Its branding success led to better income for farmers and promoted sustainable agriculture in Yamagata.

5. CONCLUDING PANEL

33. The Concluding Panel focused on future opportunities for the use of IP in agriculture. Ms. Florence Tartanac from Panel 3 observed the need to use IP in regional and local markets, while considering the limited purchasing power of consumers, particularly in Least Developed Countries (LDCs). Mr. Elcio Perpétuo Guimarães from Panel 1 highlighted the use of plant variety protection and IP as a tool for sustainable agricultural production, and the need for developing investment strategies, supporting and collaborating with farmers to tailor breeding programs in order to deliver demand-driven quality products. The rise of agri-tech companies further called for the development of policy tools to manage access to utilization and ownership of farmers and farm data. Mr. Hans Adu-Dapaah from Panel 2 highlighted the importance of IP and innovation for sustainable agricultural development. WIPO could support Member States in the education, awareness raising, and capacity building of farmers and other stakeholders in the agricultural value chain on IP tools for technology development.

VII. CONCLUSION

34. Overall, the Conference was a successful and well-attended event, attracting a wide and diverse audience. The level of engagement and feedback received were unprecedented. All materials were made available on the [Conference webpage](#), which will hopefully continue to be of benefit to Member States and other interested stakeholders.

35. *The Committee is invited to take note of the information contained in the present document.*

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